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EXAMINER	
SHIAO, REI TSANG	

ART UNIT	PAPER NUMBER
1626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,704	CUBE ET AL.	
	Examiner	Art Unit	
	Rei-tsang Shiao, Ph.D.	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) *18-20 and 22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/14/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

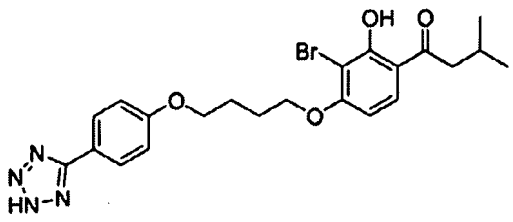
DETAILED ACTION

1. Claims 1-22 are pending in the application.

Information Disclosure Statement

2. Applicant's Information Disclosure Statement, filed on February 14, 2005 has been considered. Please refer to Applicant's copy of the 1449 submitted herein.

Response to Election/Restriction

3. Applicant's election with traverse of election of Group II claims 1-17 and 21, in part, in the reply filed on May 01, 2007 is acknowledged. As a single disclosed species, i.e., 1-(3-Bromo-2-hydroxy-4-{4-[4-(2H-tetrazol-5-yl)-phenoxy]-butoxy}-phenyl)-3-methyl-butan- 1-one of the formula 

, is also acknowledged. The traversal is on the grounds that because no serious burden for examination is present if restriction is not required, and MPEP §803 is cited.

This is found not persuasive, and the reasons are given *infra*.

Claims 1-22 are pending in the application. The scope of the invention of the elected subject matter is as follows.

Claims 1-17, and 21, in part, drawn to compounds/compositions of formula (I), and their processes of making and methods of use (i.e., treating schizophrenia).

The claims 1-22 herein lack unity of invention under PCT rule 13.1 and

13.2 since the compounds defined in the claims lack a significant structural element qualifying as the special technical feature that defines a contribution over the prior art, see Doebber et al. US 6,020,382. Ornstein's disclose similar tetrazole compounds as the instant invention. Accordingly, unity of invention is considered to be lacking and restriction of the invention in accordance with the rules of unity of invention is considered to be proper. Furthermore, even if unity of invention under 37 CFR 1.475(a) is not lacking, which it is lacking, under 37 CFR 1.475(b) a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations:

(1) A product and a process specially adapted for the manufacture of said product', or

(2) A product and a process of use of said product; or

(3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or

(4) A process and an apparatus or means specifically designed for carrying out the said process; or

(5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

And, according to 37 CFR 1.475(c)

if an application contains claims to more or less than one of the combinations of categories of invention set forth in paragraph (b), unity of invention might not be present.

However, it is noted that unity of invention is considered lacking under 37 CFR 1.475(a) and (b). Therefore, since the claims are drawn to more than a product, and according to 37 CFR 1.475 (e)

the determination whether a group of inventions is so linked as to form a single general inventive concept shall be made without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim.

The claims lack unity of invention and should be limited to only a product, or a process for the preparation, or a use of the said product. In the instant case, Groups I-III are drawn to various products, methods of use, and the final products do not contain a common technical feature or structure, and do not define a contribution over the prior art, i.e., similar tetrazole compounds. Moreover, the examiner must perform a commercial database search on the subject matter of each group in addition to a paper search, which is quite burdensome to the examiner.

Claims 1-17 and 21, in part, embraced in above elected subject matter, are prosecuted in the case. Claims 1-17 and 21, in part, not embraced in above elected subject matter, and claims 18-20 and 22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

The requirement is still deemed proper.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for using compounds of formula (I) for potentiating the mGluR2 receptor *in vitro*, it does not reasonably provide enablement for using

compounds of formula (I) for potentiation of metabotorpic glutamate receptor activity or treating a neurological and psychiatric disorders associated with glutamate dysfunction without limitation (i.e., no named diseases). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

In *In re Wands*, 8 USPQ2d 1400 (1988), factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph, have been described. They are:

1. the nature of the invention,
2. the state of the prior art,
3. the predictability or lack thereof in the art,
4. the amount of direction or guidance present,
5. the presence or absence of working examples,
6. the breadth of the claims,
7. the quantity of experimentation needed, and
8. the level of the skill in the art.

In the instant case:

The nature of the invention

The nature of the invention of claims 15-17 is drawn to intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease

associated with glutamate receptor dysfunction without limitation (i.e., no named diseases).

The state of the prior art and the predictability or lack thereof in the art

The state of the prior art is that the pharmacological art involves screening *in vitro* and *in vivo* to determine which compounds exhibit the desired pharmacological activities (i.e. what compounds can treat which specific diseases by what mechanism). There is no absolute predictability even in view of the seemingly high level of skill in the art. The existence of these obstacles establishes that the contemporary knowledge in the art would prevent one of ordinary skill in the art from accepting any therapeutic or preventive regimen on its face.

The instant claimed invention is highly unpredictable as discussed below:

It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. *In re Fisher*, 427 F.2d 833,166 USPQ 18 (CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. Applicants are claiming intent methods of use using compounds of formula (I) effective to "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases). As such, the specification fails to enable the skilled artisan to use the compounds of claims 15-17 effective to "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with

glutamate receptor dysfunction" without limitation (i.e., no named diseases). Doebber et al. US 6,020,382 discloses similar tetrazole compounds for treating diabetes.

In addition, there is no established correlation between *in vitro* activity and accomplishing treatment of "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases), *in vivo*, and those skilled in the art would not accept allegations in the instant specification to be reliable predictors of success, and those skilled in the ad would not be able to use the compounds of formula (I) since there is no description of an actual method wherein "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases) in a host is treated.

Hence, one of skill in the art is unable to fully predict possible results from the administration of the compounds of claims 15-17 due to the unpredictability of the "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases). The "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases), is known to have many obstacles that would prevent one of ordinary skill in the art from accepting treating regimen on its face.

The amount of direction or guidance present and the presence or absence of working examples

The only direction or guidance present in the instant specification is the listing of exemplary assays, i.e., an *in vitro* assay in terms of 50% effective concentration (i.e., EC_{50} value), see pages 10-11 of the specification. There are no *in vivo* working examples present for the treatment of a disease associated with glutamate dysfunction by the administration of compounds of the instant invention.

The breadth of the claims

The breadth of the claims is a methods of use of the instant compounds effective to "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases).

The quantity of experimentation needed

The quantity of experimentation needed is undue experimentation. One of skill in the art would need to determine what "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" would be benefited (i.e., treated) by the administration of the instant compounds of formula (I) of the instant invention and would furthermore then have to determine which of the claimed methods of use would provide treatment of a disease, if any.

The level of the skill in the art

The level of skill in the art is high. However, due to the unpredictability in the pharmaceutical art, it is noted that each embodiment of the invention is required to be individually assessed for physiological activity by *in vitro* and *in vivo* screening to determine which methods of use exhibit the desired pharmacological activity and which diseases would benefit from this activity. Thus, the specification fails to provide sufficient support of the broad use of the pharmaceutical compounds of the instant claims 15-17 for the "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases). As a result necessitating one of skill to perform an exhaustive search for which "intent methods of use or manufacture of a medicament using compounds of formula (I) treating a disease associated with glutamate receptor dysfunction" without limitation (i.e., no named diseases), can be treated by what pharmaceutical compounds of the instant claims in order to practice the claimed invention.

Genentech Inc. v. Novo Nordisk A/S (CA FC) 42 USPQ2d 1001, states that " a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the Wands factors and *In re Fisher* (CCPA 1970) discussed above, to practice the claimed invention herein, a person of skill in the art would have to

engage in undue experimentation, with no assurance of success. Elimination of the preamble "for potentiation of metabotorpic glutamate receptor activity in a mammal" of claim 16, and incorporation of the limitation "for potentiation of metabotorpic glutamate receptor activity in a mammal or treating a neurological and psychiatric disorders associated with glutamate receptor dysfunction" (i.e., schizophtenia), with supporting scientific documents into claims 15 and 17 respectively, would obviate the rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Applicants claim compounds/composition of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H.

5.1. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Doebber et al. CAS: 2000:12845 (i.e., US 6,020,382).

Doebber et al. disclose 14 compounds clearly anticipate the instant compounds

of formula (I), see RN: 194791-55-4,194791-57-6,194791-61-2,194791-91-8,194791-92-9,194791-93-0, 194791-95-2,194791-98-5, 194792-00-2, 194792-01-3, 194792-02-4,194792-03-5, 194792-11-5, and 194793-07-2.

5.2. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Doebber et al. CAS: 130:47486.

Doebber et al. disclose 4 compounds clearly anticipate the instant compounds of formula (I), see RN: 91361-64-7, 91361-75-0, 91361-81-8, or 91361-94-3.

5.3. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Carson et al. CAS: 107:96724.

Carson et al. disclose one tetrazole compound clearly anticipate the instant compounds of formula (I), see RN: 109914-47-8.

5.4. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuchar et al. CAS: 126:185890.

Kuchar et al. disclose 11 compounds clearly anticipate the instant compounds of formula (I), see RN: 94973-60-1, 187341-76-0, 187341-77-1, 187341-79-3, 187341-80-6, 187341-81-7, 187341-85-1, 187341-86-2, 187341-87-3, 187341-88-4, or 187341-92-0.

5.5. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bright et al. CAS: 128:70373.

Bright et al. disclose 3 tetrazole compounds clearly anticipate the instant compounds of formula (I), see RN: 95928-70-4, 95928-73-7, and 95928-74-8.

5.6. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda et al. CAS: 105:133529.

Takeda et al. disclose 3 compounds clearly anticipate the instant compounds of formula (I), see RN: 87820-78-8, 87820-79-9, or 87820-33-1.

5.7. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. CAS: 110:172814.

Brown et al. disclose 11 compounds clearly anticipate the instant compounds of formula (I), see RN: 87807-96-3, 87807-98-5, 87808-00-2, 87808-06-8, 87808-18-2, 87808-34-2, 107223-63-2, 118683-21-9, 118683-67-3, 118683-68-4, or 118683-77-5.

5.8. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Nohara et al. CAS: 107:217632 (i.e., US 4,672,073).

Nohara et al. disclose 3 compounds clearly anticipate the instant compounds of formula (I), see RN: 87820-75-5, 87820-78-8, or 87820-79-9.

5.9. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Carson et al. CAS: 107:96440.

Carson et al. disclose 8 compounds clearly anticipate the instant compounds of formula (I), see RN: 79558-01-3, 79558-05-7, 87807-98-5, 87808-00-2, 110016-92-7, 110016-94-9, 110016-96-1, or 110017-00-0.

5.10. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Steggles et al. CAS: 102:166756 (i.e., US 4,675,334).

Steggles et al. disclose 5 compounds clearly anticipate the instant compounds of formula (I), see RN: 95928-70-4, 95928-71-5, 95928-72-6, 95928-73-7, or 95928-74-8.

5.11. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldsworthy et al. CAS: 102:62239 (i.e., US 4,595,540).

Goldsworthy et al. disclose 5 compounds clearly anticipate the instant compounds of formula (I), see RN: 93498-70-5, 93498-77-2, 93498-72-7, 93498-79-4, or 93498-75-0.

5.12. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Oxford et al. CAS: 96:51977.

Oxford et al. disclose 5 compounds clearly anticipate the instant compounds of formula (I), see RN: 79558-01-3, 79558-04-6, 79558-05-7, 79558-06-8, or 79558-37-5.

5.13. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Schultz et al. CAS: 65:47469.

Schultz et al. disclose 4 compounds clearly anticipate the instant compounds of formula (I), see RN: 1160-52-7, 1163-60-6, 1164-19-8, or 1234-31-7.

5.14. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Adams et al. WO 97/28115.

Adams et al. disclose 19 compounds clearly anticipate the instant compounds of formula (I), see Example compounds No.1-9, 36, 40-43, 45, 47-50 and on pages 40-104.

5.15. Claims 1-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Belanger et al. US 4,820,876.

Adams et al. disclose 5 compounds clearly anticipate the instant compounds of formula (I), see Example compounds No. 1-2, 4, and 8-9 and in the Table I of column 6.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

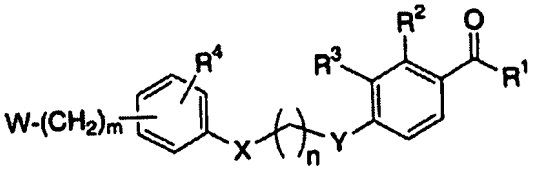
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Doebber et al. US 6,020,382 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

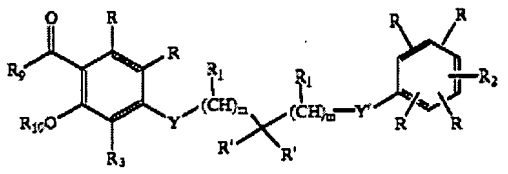
Applicants claim compounds/composition of formula (I), i.e.,



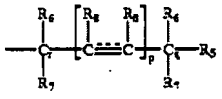
, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Doebber et al. disclose compounds/composition of formula (XI), i.e.,



, wherein the variable R2 represents



and p is 0, R6-R7 is hydrogen, and R5 is COOR4, tetrazole, or

$NHSO_2R14$, and R4 is hydrogen; Y' or Y is O or S; R, R1, R3 or R10 independently represents hydrogen, or alkyl, see columns 3-5 and 27-30. The administration dose is from about 0.1 to 1000 mg/kg per day, see column 12.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Doebber et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Doebber et al. represents tetrazolyl or CO_2H at the same position. Doebber et al. compounds/ compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

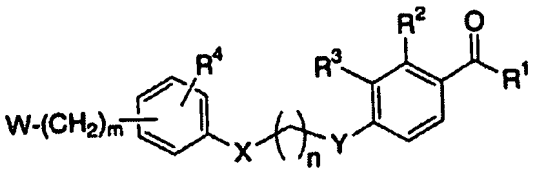
One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Doebber et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and

dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Doebber et al. compounds/compositions and Wojcik et al. teachings would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

8. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Adams et al. WO 97/28115 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

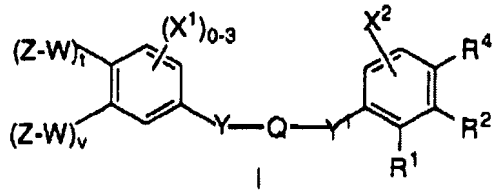
Applicants claim compounds/composition of formula (I), i.e.,



, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Adams et al. disclose compounds/composition of formula (I), i.e.,



I , wherein the variable v represents 0 and t is 1, Z-W is X-R6R7-, R6 or R7 independently is hydrogen or alkyl, Z is CO2R3 and R3 is hydrogen or 5-(1H-tetrazole), Y1 or Y is O, NR, or S; Q is unsaturated chain hydrocarbon containing 2-4 carbon atoms, R1, R2, X1 or X2 independently represents hydrogen, OH, alkyl, or halo, see pages 5-7. The administration dose is from about 0.1 to 1000 mg/kg per day, see page 32.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Adams et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Adams et al. represents tetrazolyl or CO_2H at the same position. Adams et al. compounds/compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

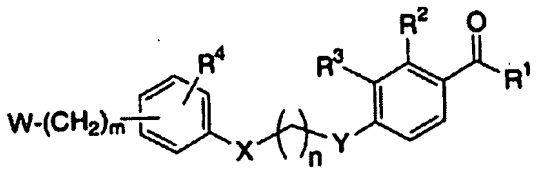
One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/

compositions of Adams et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Adams et al. compounds/compositions and Wojcik et al. teaching would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

9. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Goldworthy et al. US 4,595,540 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

Applicants claim compounds/composition of formula (I), i.e.,

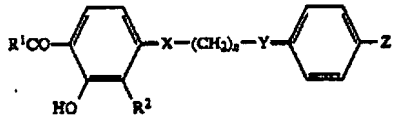


, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1

or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Goldworthy et al. disclose compounds/composition of the formula, i.e.,



, wherein the variable Z is 5-(1H-tetrazole), X or Y is O or S; the variable n is 2-6, R1, R2 independently represents hydrogen or alkyl, see columns 1-2. The administration dose is from about 5 to 500 mg/kg per day, see column 5.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Goldworthy et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Goldworthy et al. represents tetrazolyl at the same position. Goldworthy et al. compounds/compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

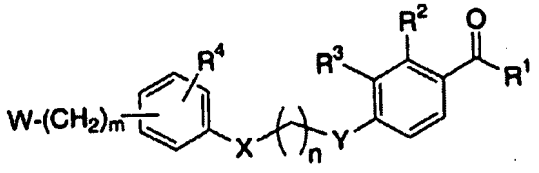
Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Goldworthy et al. and and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Goldworthy et al. compounds/compositions and Wojcik et al. teachings would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

10. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Bernstein et al. US 4,499,299 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

Applicants claim compounds/composition of formula (I), i.e.,

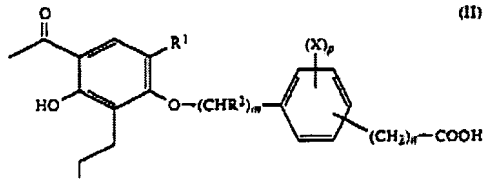


, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or

S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Bernstein et al. disclose compounds/composition of formula (II), i.e.,



(II)

, wherein the variable X is halogen or alkyl; the variable n is 0-3, R1 or R2 independently represents hydrogen or alkyl, see columns 1-2. The administration dose is from about 5 to 250 mg/kg per day, see column 8.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Bernstein et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Bernstein et al. represents CO_2H at the same position. Bernstein et al. compounds/compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

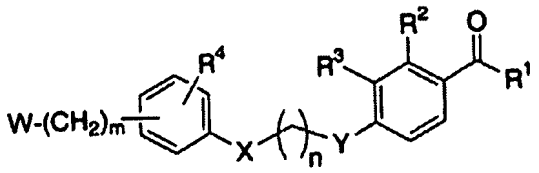
Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Bernstein et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Bernstein et al. compounds/compositions and Wojcik et al. teachings would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

11. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Nohara et al. US 4,672,073 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

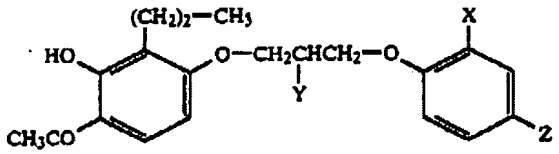
Applicants claim compounds/composition of formula (I), i.e.,



, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Nohara et al. disclose compounds/composition of formula (II), i.e.,



, wherein the variable Y is hydrogen, the variable X is halogen; the variable Z is tetrazolyl or carboxy group, see columns 1-2. The administration dose is from about 0.3 to 500 mg/kg, see column 9and 16-17.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Nohara et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Nohara et al. represents CO_2H or tetrazolyl at the same position. Bernstein et al. compounds/ compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

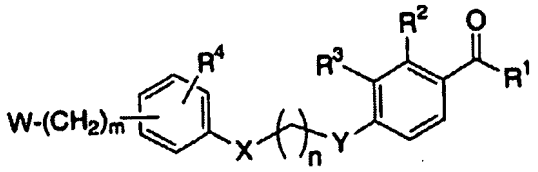
Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Nohara et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Nohara et al. compounds/compositions and Wojcik et al. teachings would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

12. Claims 1-17 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Belanger et al. US 4,820,867 in view of Wojcik et al. publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract).

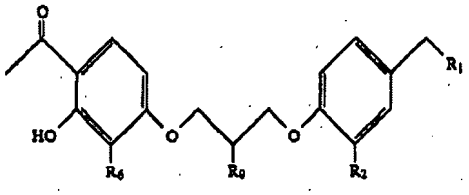
Applicants claim compounds/composition of formula (I), i.e.,



, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Determination of the scope and content of the prior art (MPEP §2141.01)

Belanger et al. disclose compounds/composition of formula (I), i.e.,



, wherein the variable R9 is hydrogen, the variable R2 is halogen; the variable R6 is hydrogen or alkyl, the variable R1 is tetrazolyl or COOR3 and R3 is hydrogen, see columns 1-2. The administration dose is from about 0.3 to 500 mg/kg, see column 9and 16-17.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Belanger et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Belanger et al. represents CO_2H or tetrazolyl at the same position. Bernstein et al. compounds/ compositions overlap with the instant invention.

Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Belanger et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Belanger et al. compounds/compositions and Wojcik et al. teachings would

possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

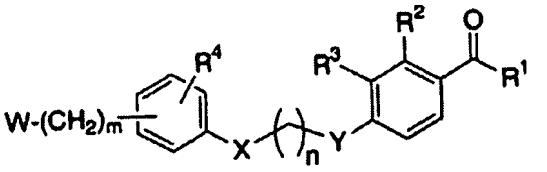
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-17 and 21 are rejected under the judicially created doctrine of obviousness- type double patenting as being unpatentable over claim 1 of Doebber et al. US 6,020,382 or over claim 2 of Belanger et al. US 4,820,867, in view of Wojcik et al.

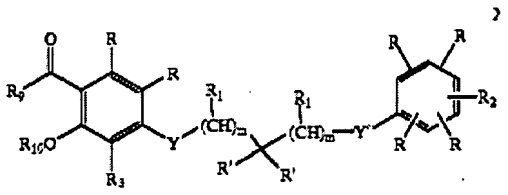
publication, Curr. Opin. Investig. Drug, 2001, 2(8): 1112-9 (i.e. see abstract). Although the conflicting claims are not identical, they are not patentably distinct from each other and reasons are as follows.

Applicants claim compounds/composition of formula (I), i.e.,

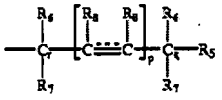


, wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –Oalkyl, see claim 1 or 13. Dependent claims 1-12 and 14-17 and 21 further limit a number of variables, i.e., the variable W is terazolyl or CO_2H. The administration dose is from about 0.1 to 250 mg/kg per day.

Doebber et al. claim compounds/composition of formula (XI), i.e.,

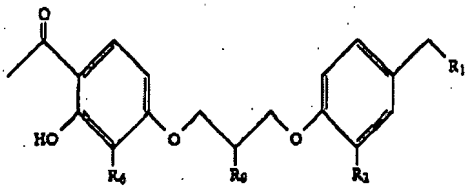


, wherein the variable R2 represents



and p is 0, R6-R7 is hydrogen, and R5 is COOR4, tetrazole, or $NHSO_2R14$, and R4 is hydrogen; Y' or Y is O or S; R, R1, R3 or R10 independently represents hydrogen, or alkyl, see columns 3-5 and 27-30. The administration dose is from about 0.1 to 1000 mg/kg per day, see column 12.

Belanger et al. disclose compounds/composition of formula (I), i.e.,



, wherein the variable R9 is hydrogen, the variable R2 is halogen; the variable R6 is hydrogen or alkyl, the variable R1 is tetrazolyl or COOR3 and R3 is hydrogen, see columns 1-2. The administration dose is from about 0.3 to 500 mg/kg, see column 9and 16-17.

The difference between the instant claims and Belanger et al. is that the instant variable W of formula (I) represents tetrazolyl, CO_2H, or CONHCO-alkyl, while Doebber et al. represents tetrazolyl or CO_2H at the same position, and while Belanger et al. represents CO_2H or tetrazolyl at the same position. Doebber et al. or Bernstein et al. compounds/compositions overlap with the instant invention.

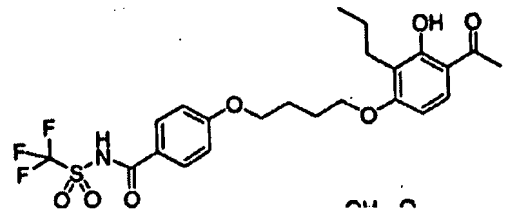
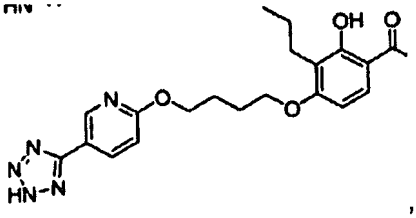
Wojcik et al. disclose mGlu receptor ligand potentially is for treating psychiatric disorders (i.e., anxiolytics), see abstract.

One having ordinary skill in the art would find the instant claims 1-17 and 21 prima facie obvious **because** one would be motivated to employ the compounds/ compositions of Doebber et al. or Belanger et al. and Wojcik et al. teachings to obtain the instant compounds/compositions of formula (I), wherein the variable W represents tetrazolyl or CO2H, the variable X represents a bond, O, S, or NH, the variable Y represents O or S, the variable m is 0-3, the variable n is 0-6, the variables R^1-R^4 independently represent hydrogen, halogen, alkyl, hydroxyl, phenyl, cycloalkyl or –

Oalkyl. Claim 13 and dependent claims 2-12 and 14-17 and 21 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed compounds/compositions derives from known Doebber et al. or Belanger et al. compounds/compositions and Wojcik et al. teachings would possess similar activities (i.e., agents for treating disease or psychiatric disorders) to that which is claimed in the reference.

Claim Objections

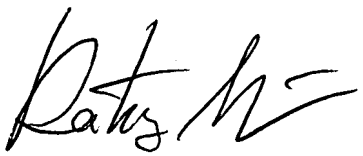
15. Claim 13 is objected to as containing non-elected subject matter, i.e., the compounds of the formula  or  , etc. It is suggested that applicants amend the claims to the scope of the elected subject matter as defined on pages 2-3 *supra*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rei-tsang Shiao whose telephone number is (571) 272-0707. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rei-tsang Shiao, Ph.D.
Patent Examiner
Art Unit 1626

June 14, 2007